

43



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D6104-003
Job Sheet 204387

5240283

Part No: D6104-003		Job Qty: 10 pcs
Part Name: Round Billet, 17-4		
		
Part Weight: 0 lbs	Status: New	Priority: Medium
Job Created: 12/9/19	Job Tracking No:	
Due Date: 1/10/20	Created By: Chantal Lavoie	
Type: Stock	Description:	
Note: DWG REV B		
Ship Via:		

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter / Supplier Lead Time	Sign-off
					Setup Hrs	Run Hrs		
100	Purchasing	10 pcs	1/10/20	1/10/20	0.00	0.00	Purchasing - 1	DEC 13 2019
							Purchasing - 2	
							Purchasing - 3	
110	Packaging 2-1 - Receive - B4B	10 pcs	1/10/20	1/10/20	0.00	0.00	Packaging 2 - 1 - B4B	DEC 13 2019
							Packaging 2 - 2 - B4B	
							Packaging 2 - 3 - B4B	
							Packaging 2 - 5 - B4B	
							Packaging 2 - 4 - B4B	
							Packaging 2 - 6 - B4B	
							Packaging 2 - 7 - B4B	
							Packaging 2 - 8 - B4B	
							Packaging 2 - 9 - B4B	
							Packaging 2 - 10 - B4B	
							Packaging 2 - 11 - B4B	
							Packaging 2 - 12 - B4B	
							Packaging 2 - 13 - B4B	
							Packaging 2 - 14 - B4B	
							Packaging 2 - 15 - B4B	
							Packaging 2 - 16 - B4B	
							Packaging 2 - 17 - B4B	
							Packaging 2 - 18 - B4B	
							Packaging 2 - 19 - B4B	
							Packaging 2 - 20 - B4B	
							Packaging 2 - 21 - B4B	
							Packaging 2 - 22 - B4B	
							Packaging 2 - 23 - B4B	
							Packaging 2 - 24 - B4B	
							Packaging 2 - 25 - B4B	
							Packaging 2 - 26 - B4B	
							Packaging 2 - 27 - B4B	
							Packaging 2 - 28 - B4B	

120 QC 18	10 pcs	1/10/20	0.00 0.00	Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
				QC 18 - 12	
				QC 18 - 14	
				QC 18 - 22	
				QC 18 - 25	
				QC 18 - 48	
				QC 18 - 58	
QC 18 - 61					
QC 18 - 9					
QC 18 - 81					
130 Packaging 3-1 - Stock - B4B	10 pcs	1/10/20	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
140 QC 21 - SA	10 pcs	1/10/20	0.00 0.00	QC 21 - SA - 21	
				QC 21 - SA - 70	
				QC 21 - SA - 53	

DAS
81
9-89

DEC 13 2019

67 19-12-17

DAS
21
9-89

DEC 17 2019

Part Op 100 - (Purchasing) Issue P/O: _____ a)Description: S.S round billet b) Ø3.25" x 3.80" long d) Material: 17-
Descriptions: 4PH Stainless steel (Ams 5643 or Aisi 630) e)One blank makes 2 parts
110 - (Receive & Inspect for Damage & Mat'l Certs) Ensure material certification is attached

120 - Ensure Material certification comply to Dwg D6104
130 - (Identify as per dwg & Stock Location:) LOCATION: MAT043
140 - (QC21- Final Inspection - Work Order Release)

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D6104-003P	17-4 SS Roundbar 3.25"Od	10 pcs (1 ea)	100-Purchasing	240280

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6104-003P	10	0	0

Part Specifications				
Specifications could not be found.				

Plex 12/9/19 11:01 AM Dart.Lavoie.Chantal

LIVE 4
D6104-003

H/T 930F

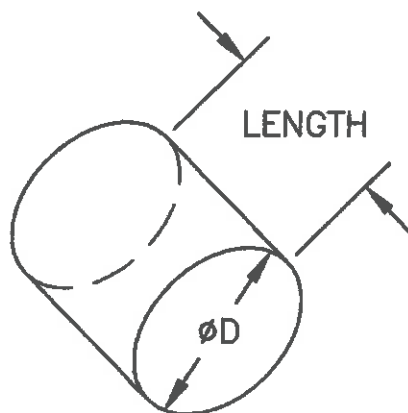


DESIGN FF	DRAWN BY [Signature]	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.29 [Signature]

SPECIFICATION CONTROL DRAWING



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRC)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB045345



Supplier: MEC002-VU
Metaux Castle
P.O. Box 4090 Str A
Toronto
ON
M5W OE9 Canada

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045345

PO Date: 12/9/19

Due Date: 1/14/20

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: 613-623-5200 Ext: 242
Fax: 613-632-1053
clavoie@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

DEC 09 2019

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		D6101-003P	D6101 REV. B	72742	7075-T7351 2X6.25X7.875 : Various STC's AS PER DWG D6101 REV. B SIZE: 7.875" X 6.250" X 2.00" THICK GRAIN DIRECTION ALONG 7.875" LENGHT MATERIAL: 7075-T7351 QQ-A-250/12 TOLERANCE AS PER QUOTE +.030"/-.000"	Firmed	-	1/14/20	20 pcs	0 pcs 19 pcs 663	20 pcs	\$38.82/pcs DEC 13 2019	\$776.40
2		D6101-015P	D6101 REV. B	72741	Aluminum Billet : Various STC's As per Dwg D6101 Rev. B	Firmed	-	1/14/20	20 pcs	0 pcs 20 pcs 663	20 pcs	\$57.20/pcs DEC 13 2019	\$1,144.00
3		D6101-017P	D6101 REV. B	72740	Aluminum Billet : Various STC's As per Dwg D6101 Rev. B	Firmed	-	1/14/20	20 pcs	0 pcs 20 pcs 663	20 pcs	\$32.64/pcs DEC 13 2019	\$652.80

Plex 12/9/19 11:14 AM Dart.Lavoie.Chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045345



Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
4		D6104-003P	D6104 REV. B		17-4 SS Roundbar 3.25"Od : AS PER DWG D6104 REV. B MAT'L 17-4 PH PER AMS 5643 OR AISI 630 SIZE: 3.250" DIA X 3.80" LENGTH	Firmed	-	1/14/20	10 pcs	0 pcs <i>10 pcs 6065</i>	10 pcs	\$26.70/pcs	\$267.00
Grand Total:													\$2,840.20

Order Notes

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program.

A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an Integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 12/9/19 11:14 AM Dart.Layole.Chantal

Line 4



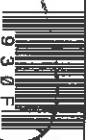
Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Shipment No:4058416

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped 11-DEC-19	Inco Terms FCA HAWKESBURY ON CAN	Freight Terms Prepaid & Add	Carrier LOCAL FLEET	BOL No 4058416-7

Shipment Details				Final Destination Branch - TOR			
Order No	Line No	Item No	Description				
5677416	4	42470.MO	3.2500.RD.17CR-4NI.STAINLESS.RT.SOL TR.COND A.132.0000-156.0000 CUT TO 3-8 IN (+/- .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AMS 5643				
Purchase Order No	Part Number	Ordered Qty		Invoice Qty			
POHB045345	YOUR ITEM NUMBER: D6104-003	10.00 PCS		10.00 PCS			
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavole@dataero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
123028168	NORTH AMERICAN STAINLESS	 605		10			89.3327

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description.



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

DEC 11 2019

Date:

Name:

[Signature]





North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 452496 4 Mail To:
Customer: 007209 001 CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Ship To:
CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Date: 10/09/2018 Page: 1
Steel: 630(17-4)
Finish: HR

Your Order: 42425

NAS Order: PN 0098376 01 Heat Treat Code: 48,748

Corrosion:
Red Ratio: 7.0 :1

PRODUCT DESCRIPTION:

Round Bar, Hot Rolled, Annealed, Rough Turned
UNS S17400, EN 10204 3.1, ASTM A484/18, MACRO OK, AMS 5643/V
ASTM A564/13e1, AMS 2303/F, ASME SA564/13, ASTM F899/12B
SOL. ANNEALED @ 1900F MIN FOR 1 HR MIN. AND AIR COOLED TO RT
UT PER API6A PSL3, ASTM A388/S1 CRITERIA, UT PASSED
H900 MECH. PROPERTIES ARE CAPABILITY ONLY*

REMARKS:

COMPLIES W/REQUIREMENTS OF DEAR 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. EAF+AOB+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION



Product Id	Skid #	Diameter	Size	Weight	-----	Length-----	Mark	Pieces	Commodity	Code
Bd7888 6		3.2500		1.034		144.00	1	1		

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

ANAB, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/14a

NAS Heat	CM	C %	CB %	CO %	CR %	CU %	MN %	MO %	N %	NI %
930F	US	.022	.243	.04	15.46	3.28	.79	.024	.032	4.30
		P %	S %	SI %	TA %	TI %				
		.019	.0138	.60	.0050	.0020				

MECHANICAL PROPERTIES

Product Id	1 d o i c r	HB No.	Grain No.	Ferrite %	TS-900CAP KSI	YS-900CAP KSI	EL-900CAP % 4D	RA-900CAP %	RC-900CAP No.	FREQ. No.
Bd7888 6	RL	341.0	7.0	.22	199.59	175.55	12.80	41.81	44.0	.39

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.
KRIS LARK
10/09/2018



North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 452496 4 Mail To:
Customer: 007209 001 CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Ship To:
CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Date: 10/09/2018 Page: 2
Steel: 630(17-4)
Finish: HR

Your Order: 42425

NAS Order: PN 0098376 01 Heat Treat Code: 48,748

Corrosion:
Red Ratio: 7.0 :1

PRODUCT DESCRIPTION:

Round Bar, Hot rolled, Annealed, Rough turned
UNS S17400; EN 10204 3.1, ASTM A484/18, MACRO OK, AMS 5643/V
ASTM A564/13e1, AMS 2303/F, ASME SA564/13, ASTM F899/12B
SOL. ANNEALED @ 1900F MIN FOR 1 HR MIN. AND AIR COOLED TO RT
UT PER API6A PSL3, ASTM A388/S1 CRITERIA, UT PASSED
H900 MECH. PROPERTIES ARE CAPABILITY ONLY*

REMARKS:

COMPLIES W/REQUIREMENTS OF DEAR 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION



Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
Bj7888 6		3.2500		1,034	144.00	1	1	

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

ANAB, ISO/IEC 17025, Certificate# I2323
Chemical Analysis per ASTM A751/14a

NAS Heat
CM
930F
US

MECHANICAL PROPERTIES

Product Id	1 d o i c z	SEV. No.
Bj7888 6	RL	.24

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

10/09/2018

MATERIAL: D6104-003
DATE: DEC 12 2019

PO / BATCH NO.: POH13045345
⇒ 5240280

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 10 PCS
 QUANTITY INSPECTED: 10 PCS
 QUANTITY REJECTED: —

THICKNESS ORDERED: Ø 3.250 L 3.800"
THICKNESS RECEIVED: Ø 3-250 L 3.900"
SHEET SIZE ORDERED:
SHEET SIZE RECEIVED:

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	AMS 5643
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	HIT 930F
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: 82

SIGNED OFF BY: _____

DATE: DEC 12 2019

DATE: _____

Attach this inspection sheet with the corresponding material cert and remlt to be scanned and received in